REMARKS

This paper is being filed in response to the non-final official action dated June 22, 2006, in which claims 16 and 17 have been withdrawn from consideration, and claims 1-15 and 18-44 have been rejected.

In the official action, the specification was objected to due to the lack of headings. This objection is traversed in view of the amendments to the specification submitted herein, in which appropriate headings have been inserted into the application. In addition, the abstract was objected to because of the inclusion of "(Fig. 1)" as a second paragraph in the abstracts. This objection is also traversed due to the amendment to the abstract submitted herein deleting the objectionable text.

The official action also sets forth an objection to the disclosure due to "the inclusion of claims in pages 2-5 ..." However, this informality has already been taken care of in the preliminary amendment filed with the application, a copy of which is enclosed herewith.

In the official action, claims 4-6, 8-10, and 12 were rejected as indefinite due to lack of antecedent basis for certain claim recitations. Claims 4-6, 8-10, and 12 have been amended to delete the phrase "flow-through" to thereby provide proper antecedent basis for the term "the container." However, with regard to claim 5, antecedent basis for the phrase "the conveyor" is provided in claim 3 from which claim 5 depends. With regard to claim 6, the phrase "the spiral guide" has been deleted and replaced with "the device for spirally transporting the substances" which has antecedent basis in claim 1, from which claim 6 depends. In claim 9, word "space" has been replaced with the word "chamber" in order to provide proper antecedent basis.

In the official action, claims 1-6, 10, 11, 15, 21, 25-28, 35-37, and 44 were rejected as anticipated by Warmbier et al., U.S. Patent No. 5,408,074. Claims 3, 18, 19, 29, and 30 were rejected as obvious over Warmbier et al. Claims 8, 9, 20, and 32-34 were rejected as obvious

over Warmbier et al. in view of MacKenzie, U.S. Patent No. 4,608,261. Claims 7 and 31 were rejected as obvious over Warmbier et al. in view of Miyazaki et al., U.S. Patent No. 4,565,670. Claims 14 and 43 were rejected as obvious over Warmbier et al. in view of GB 2 110 803 A ("GB '803"). Claims 12, 13, 22-24, and 38-42 were rejected as obvious over Warmbier et al. in view of GB '803. Finally, the official action indicated that the oath or declaration in the application is defective. A supplemental declaration is submitted herewith that does identify the application on which priority is claimed by specifying the application number, country, day, month, and year of its filing.

By this amendment, independent claims 1 and 2 have been amended to more clearly define the invention by incorporating the recitations of dependent claims 10 and 35, respectively. Claims 10 and 35 have been canceled, as have been non-elected claims 16 and 17. In addition to the previously discussed amendments to the claims to resolve antecedent basis issues, other minor amendments have been made, for example to claims that previously depended from claim 10 or claim 35, to make them depend from claim 1 or claim 2. In addition, new claim 45 has been added that includes the recitations of claim 1 as well as a recitation of a lateral connecting pipe that is adapted to feed a further chemical substance into the container (a feature disclosed at page 10. lines 9-15 and in FIGS. 1 and 3 of the application as originally filed).

No new matter has been added by the amendments to the application.

Rejections Under 35 U.S.C. § 102 b)

Proper Basis for a § 102(b) Rejection

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). Thus, a

determination that a claim is anticipated under 35 USC § 102 involves two analytical steps. First, the U.S. Patent and Trademark Office (PTO) must interpret the claim language, where necessary, to ascertain its meaning and scope. In interpreting the claim language, the PTO is permitted to attribute to the claims only their broadest *reasonable* meaning as understood by persons having ordinary skill in the art, considered in view of the entire disclosure of the specification. *See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). Second, the PTO must compare the construed claim to a single prior art reference and set forth factual findings that "each and every limitation is found either expressly or inherently [disclosed] in [that] single prior art reference." *Celeritas Techs. Ltd. v. Rockwell Int'l Corp.*, 150 F.3d 1354, 1360 (Fed. Cir. 1998). Additionally, "[t]he identical invention must be shown in as complete detail as is contained in the patent claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989).

The § 102(b) Rejections are Moot and/or Traversed

The applicant respectfully traverses the rejection of claims 1-6, 11, 15, 21, 25-28, 36, 37, and 44 as anticipated by Warmbier et al. Independent claim 1, and claims 3-6, 11, and 15, depending directly or indirectly from claim 1, are directed to an apparatus for treating chemical substances in a microwave field that includes a microwave chamber, a container that extends at least partly in the microwave chamber for receiving the substances to be treated, and a device for spirally transporting the substances in the container. The container protrudes from the microwave chamber. Claim 2 and claims 25-28, 36, 37, and 44, depending directly or indirectly thereon, are directed to an apparatus for treating chemical substances in a microwave field. The apparatus includes a microwave chamber, and flow-through contain which extends at least partly in the microwave chamber, for receiving the substances, and a mixing device for thorough mixing of the substances while they are being

transported in the axial direction through the flow-through container. The flow-through container protrudes from the microwave chamber.

Warmbier et al. discloses an apparatus in which a pipe is surrounded by a microwave resonator. The pipe contains a screw conveyer rotatably mounted in the pipe. Warmbier et al. does not disclose or suggest each and every recitation of claims 1 or 2, as amended. Specifically, with regard to claim 1, Warmbier et al. does not disclose or suggest a device for spirally transporting substances in a container that extends at least partly in a microwave chamber, wherein the container protrudes from the microwave chamber and the device for spirally transporting the substances also protrudes from the chamber. Instead, the embodiment of Fig. 1 of Warmbier et al. does not show the rotating screw conveyor 2 to be protruding from the pipe 1. Instead, "the material 7 is supplied as a granule to the pipe 1 in a manner not shown ..." Warmbier et al. at column 3, lines 41-43. With regard to the embodiment of Fig. 2 Warmbier et al., the extruder 11 having a screw conveyor does not protrude from the pipe 9.1 - 9.3, but instead is shown as being disposed completely outside of the pipe 9.1 - 9.3. Accordingly, Warmbier et al. does not anticipate claim 1 or the claims depending from claim 1.

Similarly, with regard to claim 2 and the claims depending from claim 2, Warmbier et al. does not disclose or suggest a mixing device that protrudes from a microwave chamber, for the same reasons set forth above with regard to claim 1. Accordingly, Warmbier et al. does not disclose or suggest each of the recitations of claim 2 and the claims depending therefrom, and accordingly does not anticipate any of these claims.

Rejections Under 35 U.S.C. § 103(a)

Proper Basis for a § 103(a) Rejection

The PTO "has the burden under § 103 to establish a *prima facie* case of obviousness."

In re Fine, 837 F.2d 1071, 1074 (Fed. Cir. 1988). To establish a *prima facie* case of obviousness, the PTO must satisfy three basic criteria. First, the PTO must show that the combined disclosure of the prior art references teaches or suggests all of the claim limitations. *See* MPEP § 2143 (8th ed., rev. 5, Aug. 2006). Moreover, it is "incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference." *Ex parte Levy*, 17 USPQ2d 1461, 1462 (Bd. Pat. App. & Inter. 1990).

Second, where obviousness is alleged to arise from a combination of elements across a plurality of references, the PTO must show the existence of some suggestion, motivation, or teaching to those skilled in the art to make the precise combination recited in the claims. *See Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1320 (Fed. Cir. 2004). Compliance with this requirement prevents the PTO's use of "the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability — the essence of hindsight." *Ecolochem, Inc. v. Southern Cal. Edison Co.*, 227 F.3d 1361, 1371-72 (Fed. Cir. 2000) (quoting *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999)). Evidence of a suggestion or motivation to combine prior art references may come from "the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved." *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1125 (Fed. Cir. 2000). The PTO's showing "must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not 'evidence.'" *Id.* (quoting *In re Dembiczak*, 175 F.3d at 1000). Indeed, the U.S. Court of Appeals for the Federal Circuit has consistently held that a person having ordinary skill in the art must not only have had some motivation to combine the prior art teachings, but also some motivation to combine the prior art teachings in the particular manner claimed. *See, e.g., In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) ("Particular

findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.").

To support a conclusion that a claimed combination is *prima facie* obvious, either (a) the references must expressly or impliedly suggest the claimed combination to one of ordinary skill in the art, or (b) the PTO must present a convincing line of reasoning as to why a person of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *See Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985); *see also, In re Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976). The mere fact that the prior art could be modified as proposed by the PTO is not sufficient to establish a *prima facie* case of obviousness. *See In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992). The PTO must explain why the prior art would have suggested to one of ordinary skill in the art the desirability of the modification. *Id.*; *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998) ("In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination.").

Finally, the PTO must demonstrate that a person having ordinary skill in the art would have a reasonable expectation of success when combining the disclosures of the references. The suggestion or motivation to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and must not be derived by hindsight from knowledge of the application's disclosure. *In re Dow Chem. Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988); MPEP § 2143.

If an independent claim is not obvious under § 103(a), then any claim depending therefrom also is not obvious. *See* MPEP § 2143.03 (8th Ed., Rev. 5, Aug. 2006).

The § 103(a) Rejections are Moot and/or Traversed

Applicant respectfully traverses the rejection of claims 3, 18, 19, 29, and 30 as obvious over Warmbier et al. The rejection states that "the difference between Warmbier and the instant claims are each of the limitations recited in the instant claims." This does not provide a proper basis for an obviousness rejection, and appears to be a statement that supports the patentability of these claims over Warmbier et al. In any event, Warmbier et al. does not disclose or suggest the subject matter of these claims, because, for example, there is no disclosure or suggestion in Warmbier et al. for having a device for spirally transporting substances that protrudes from a microwave chamber, or a mixing device that protrudes from a microwave chamber, as noted above with respect to the anticipation rejections.

Applicant respectfully traverses the rejection of claims 8, 9, 20, and 32-34 as obvious over Warmbier et al. in view of MacKenzie. MacKenzie is directed to a method and apparatus of processing food stuff raw material that includes a preheating chamber and a main processing chamber having a microwave energy source therein. However, MacKenzie does not disclose or suggest a container that extends at least partially in the microwave chamber for receiving substances to be treated. Instead, MacKenzie discloses a tubular pre-heat section 13 that is in abutment with a tubular conveyance section 17, and a sealing means 18 is provided between the sections 13 and 17.

The official action does not even allege that there would be any motivation to combine the teaching of MacKenzie with the teachings of Warmbier et al. Accordingly, the obviousness rejection of claims 8, 9, 20, and 32-34 is improper and should be withdrawn.

Applicant respectfully traverses the rejection of claims 7 and 31 as obvious over Warmbier et al. in view of Miyazaki et al. The official action states that the "difference between Warmbier as applied above and the instant claims is the provision that the recited inclination of the apparatus." However, as set forth above in connection with the anticipation

rejections, Warmbier et al. does not disclose or suggest each of the recitations of independent claims 1 or 2. Warmbier et al. does not disclose or suggest a device for spirally transporting substances in a container that extends at least partly in a microwave chamber, wherein the container protrudes from the microwave chamber and the device for spirally transporting the substances also protrudes from the chamber. Accordingly, even if one were to combine the teachings of Warmbier et al. with the teachings of Miyazaki et al., one would not arrive at the claimed invention. Miyazaki does not disclose or suggest a container that extends at least partly into a microwave chamber, nor does it disclose or suggest a container that protrudes from a microwave chamber or a transport device that protrudes from a microwave chamber. Accordingly, even if one were to combine the teachings of Warmbier et al. with the teachings of Miyazaki, one would not arrive at the claimed invention.

Applicant also respectfully traverses the rejection of claims 14 and 43 as obvious over Warmbier et al. in view of GB '803. As set forth above in connection with the anticipation rejections, Warmbier et al. does not disclose or suggest each of the recitations of independent claims 1 or 2. Warmbier et al. does not disclose or suggest a device for spirally transporting substances in a container that extends at least partly in a microwave chamber, wherein the container protrudes from the microwave chamber and the device for spirally transporting the substances also protrudes from the chamber. GB '803 does not make up for the deficiencies of Warmbier et al. in this regard. Accordingly, even if one were to combine the teachings of Warmbier et al. with the teachings of Miyazaki et al., one would not arrive at the claimed invention. Accordingly, the rejection of claims 14 and 43 is improper and should be withdrawn.

Applicant respectfully traverses the rejection of claims 12, 13, 22-24, and 38-42 as obvious over Warmbier et al. in view of GB '803. Contrary to the assertion in the official action, that "the outlet 41 is equivalent to the recited pressure-limiting device," GB '803

actually discloses that vapor is withdrawn from the manifolds 39 via outlets 41. Thus, there is no implication that the outlets 41 contain any valve whatsoever, as recited in the rejected claims. It appears that the examiner is confusing the actual claim language of a "pressure-limiting valve" to be a "pressure-limiting device." Accordingly, the rejection of claims 12, 13, 22-24, and 38-42 is improper and should be withdrawn.

Prima facie obviousness under § 103 is a legal conclusion — not a fact. *In re Rinehart*, 531 F.2d at 1052. The foregoing response identifies facts (e.g., evidence in the form of statements in the prior art) rebutting the alleged legal conclusion that the claimed invention is *prima facie* obvious. All of these facts must be evaluated along with the facts on which the legal conclusion was originally reached — not the legal conclusion itself. Having requested herein reconsideration of the legal conclusion set forth in the official action, the PTO is obligated to address all of the evidence and base its forthcoming legal conclusion(s) on such evidence, uninfluenced by its earlier conclusions. *Id.*

Given these shortcomings, it is respectfully submitted that the claimed invention is unobvious. Accordingly, reconsideration and withdrawal of the obviousness rejections are requested.

Conclusion

In view of the foregoing, entry of the amendments to the application, reconsideration and withdrawal of the rejections and objections, and allowance of all pending claims are respectfully requested.

Should the examiner wish to discuss the foregoing, or any matter of form or procedure in an effort to advance this application to allowance, the examiner is urged to contact the undersigned attorney

Respectfully submitted,

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September 22, 2006

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Werner Lautenschläger

Serial No.: To be assigned

Filed: Herewith

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I hereby certify that this paper is being deposited with the United States Postal Service "EXPRESS MAIL POST OFFICE TO ADDRESSEE" service under 37 CFR §1.10 on the date indicated above and is addressed to: Commissioner for Patents, Box Patent Application, P.O. Box 1450, Alexandria, VA 22313-1450

Richard Zimmermann

PRELIMINARY AMENDMENT

Commissioner for Patents
Box Patent Application
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Sir:

Please amend this application as follows:

IN THE TITLE:

Please change the title as follows:

~~Microwave Treatment of Chemical Substances in a Container~~ Apparatus and Method for Treating Chemical Substances in a Microwave Field

IN THE SPECIFICATION:

The paragraph beginning at page 2, line 20 has been deleted as follows:

~~This object is achieved by the features of Claim 1 and 16, respectively. Advantageous developments of the invention are described in the associated subclaims.~~

The paragraph beginning at page 2, line 24 has been changed as follows:

In ~~the case of the invention according to Claims 1 and 16~~ one embodiment of the invention, provision is made for a device for spirally guiding the substance in the flow-through container which ensures spiral guidance of the substance as it flows through. As a result, the apparatus can be substantially simplified compared with the prior art, since the spiral guidance enables a flow-through movement and simultaneously a translatory movement without the need for a rotary mounting and a drive for the flow-through container, as is known in the case of the prior art. The design according to the invention therefore enables not only a simplification of the construction, but also a small, in particular narrow, construction, since a spiral guide can be realised in a simple construction and requires only a small space, in particular a narrow space. At the same time, a large flow-through capacity can be achieved.

The paragraph beginning at page 3, line 30 as been deleted as follows:

~~This object is achieved by the features of Claim 2 and 17, respectively. Advantageous developments of the invention are described in the associated subclaims.~~

The paragraph beginning at page 4, line 2 has been changed as follows:

In ~~the case of the invention according to Claims 2 and 17~~ another embodiment of the invention, provision is made for a mixing device for thorough mixing of the substance while it is flowing through the flow-through container. As a result, the homogeneous state of the substance is maintained or improved. The design according to the invention is therefore also suitable for low flow-through rates where there is a particular risk of segregation.

The paragraph beginning at page 4, line 31 has been changed as follows:

It is furthermore advantageous for the flow-through container to protrude from the microwave chamber on one side. In this protruding section, it is possible to realise~~, independently of the inventive designs according to Claim 1 and 2~~, other advantageous designs, for example an inlet or outlet for the flow-through container which can extend axially or transversely thereto, i.e. radially.

The paragraph beginning at page 5, line 12 has been deleted as follows:

~~The advantages described with regard to the inventive designs according to Claim 1 and 2 also apply correspondingly to the inventive methods according to Claims 16 and 17.~~

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) Apparatus ~~(1)~~ for treating chemical substances in a microwave field, ~~having~~ comprising:

- a microwave chamber ~~(9)~~, in which microwave radiation acts on the substances,

- a container ~~(12)~~, which extends at least partly in the microwave chamber ~~(9)~~, for receiving the substances to be treated, and

- a device for spirally transporting the substances in the container ~~(12)~~.

2. (Currently Amended) Apparatus ~~(1)~~ for treating chemical substances in a microwave field, ~~having~~ comprising:

- a microwave chamber ~~(9)~~, in which microwave radiation acts on the substances,

- a flow-through container ~~(12)~~, which extends at least partly in the microwave chamber ~~(9)~~, for receiving the substances, and

a mixing device ~~(61)~~ for thorough mixing of the substances while they are being transported in the axial direction through the flow-through container.

3. (Currently Amended) Apparatus according to Claim 1 ~~or 2, characterised in that~~ wherein the spiral ~~guide or the mixing device (61) is realised by~~ device comprises a conveyor worm.

4. (Currently Amended) Apparatus according to Claim 3, ~~characterised in that~~ wherein the conveyor worm ~~brings~~ comprises a rotary drive to ~~about~~ effect forced conveyance of the substances in the flow-through container ~~(12) as a result of a rotary drive (58)~~.

5. (Currently Amended) Apparatus according to ~~one of the preceding Claims 2 to 4, characterised in that~~ Claim 3, wherein the flow-through container ~~(12)~~ is ~~of hollow-cylindrical design~~ a hollow cylinder and the conveyor worm is arranged with little play in the flow-through container.

6. (Currently Amended) Apparatus according to ~~one of the preceding claims, characterised in that the~~ Claim 1, wherein a longitudinal dimension, extending in the microwave chamber, of the flow-through container ~~(12)~~ and of the spiral guide ~~or of the conveyor worm~~ is a multiple of ~~the~~ an inner cross-sectional dimension of the flow-through container ~~(12), in particular at least 5 times or at least 10 times the inner cross-sectional dimension~~.

7. (Currently Amended) Apparatus according to ~~one of the preceding claims, characterised in that it~~ Claim 1, wherein said apparatus is arranged vertically or such that it can be inclined and locked in ~~the respective~~ an inclined position.

8. (Currently Amended) Apparatus according to ~~one of the preceding claims, characterised in that~~ Claim 1, wherein the flow-through container ~~(12)~~ is connected ~~in its end regions~~ at respective ends to an axial or radial flow-through line section ~~(21; 45)~~, respectively.

9. (Currently Amended) Apparatus according to Claim 8, ~~characterised in that~~ wherein the axial flow-through line section ~~(21)~~ passes through a ~~preferably horizontal~~ housing wall ~~(4d)~~ bounding the microwave space ~~(9)~~.

10. (Currently Amended) Apparatus~~, in particular~~ according to ~~one of the preceding claims, characterised in that~~ Claim 1, wherein the flow-through container ~~(12) and preferably also the conveyor worm protrude~~ protrudes from the microwave chamber ~~(9)~~.

11. (Currently Amended) Apparatus according to Claim 10, ~~characterised in that~~ wherein an inlet or outlet for the flow-through container ~~(12)~~ is arranged in the protruding end region of the flow-through container ~~(12)~~.

12. (Currently Amended) Apparatus according to ~~one of the preceding claims, characterised in that the~~ Claim 1, wherein a treatment chamber ~~(13a) of~~ is defined in the flow-through container ~~(12) is~~ and is connected to a pressure-limiting valve ~~(44), which is preferably adjustable~~.

13. (Currently Amended) Apparatus according to Claim 12, ~~characterised in that~~ wherein the pressure-limiting valve ~~(44)~~ is arranged in a flow-through line section~~, in particular in an outlet line section, and is preferably displaceable so far that in its open position it frees the flow-through line~~.

14. (Currently Amended) Apparatus according to ~~one of Claims 10 to 13, characterised in that~~ Claim 10, wherein a cooling or heating device ~~(35)~~ is arranged in ~~that~~ a region of the flow-through container ~~(12)~~ which protrudes from the microwave chamber ~~(9)~~.

15. (Currently Amended) Apparatus according to ~~one of the preceding Claims 10 to 14, characterised in that~~ Claim 10, wherein a connecting piece ~~(42)~~ is arranged in ~~that~~ a region of the flow-through container ~~(12)~~ which protrudes from the microwave chamber ~~(9)~~.

16. (Currently Amended) Method for treating chemical substances in a microwave field, ~~in which~~ comprising the steps of

- providing microwave radiation ~~acts~~ acting on the substances in a microwave chamber ~~(9)~~,

- moving the substances ~~move~~ in translatory fashion in a container ~~(12)~~ which extends at least partly in the microwave chamber ~~(9)~~, and

- further actively moving the substances in the container ~~(12) are, furthermore, moved actively~~ in a direction transversely to the direction of translation.

17. (Currently Amended) Method for treating chemical substances in a microwave field, ~~in which~~ comprising the steps of

- providing microwave radiation ~~acts~~ on the substances in a microwave chamber ~~(9)~~,

- moving the substances ~~move~~ in a container ~~(12)~~ which extends at least partly in the microwave chamber ~~(9)~~, and

- further actively mixing the substances in the container ~~(12) are, furthermore, mixed actively~~ by a mixing device ~~(61)~~.

Please add new claims 18-44, as follows.

18. (New) Apparatus according to Claim 6, wherein said longitudinal dimension is at least five times said inner cross-sectional dimension.

19. (New) Apparatus according to Claim 6, wherein said longitudinal dimension is at least ten times said inner cross-sectional dimension.

20. (New) Apparatus according to Claim 9, wherein the housing wall is horizontal.

21. (New) Apparatus according to Claim 10, wherein the spiral device protrudes from the microwave chamber.

22. (New) Apparatus according to Claim 12, wherein the pressure-limiting valve is adjustable.

23. (New) Apparatus according to Claim 13, wherein the pressure limiting valve is arranged in an outlet line section.

24. (New) Apparatus according to Claim 13, wherein the pressure-limiting valve is displaceable so far that in an open position it frees the flow-through line.

25. (New) Apparatus according to Claim 2 wherein the mixing device is a conveyor worm.

26. (New) Apparatus according to Claim 25, wherein the conveyor worm comprises a rotary drive to effect forced conveyance of the substances in the flow-through container.

27. (New) Apparatus according to Claim 25, wherein the flow-through container ~~(12)~~ is a hollow cylinder and the conveyor worm is arranged with little play in the flow-through container.

28. (New) Apparatus according to Claim 2, wherein a longitudinal dimension, extending in the microwave chamber, of the flow-through container and of the spiral guide is a multiple of an inner cross-sectional dimension of the flow-through container.

29. (New) Apparatus according to Claim 28, wherein said longitudinal dimension is at least five times said inner cross-sectional dimension.

30. (New) Apparatus according to Claim 28, wherein said longitudinal dimension is at least ten times said inner cross-sectional dimension.

31. (New) Apparatus according to Claim 2, wherein said apparatus is arranged vertically or such that it can be inclined and locked in an inclined position.

32. (New) Apparatus according to Claim 2, wherein the flow-through container is connected at respective ends to an axial or radial flow-through line section, respectively.

33. (New) Apparatus according to Claim 32, wherein the axial flow-through line section passes through a housing wall bounding the microwave space.

34. (New) Apparatus according to Claim 33, wherein the housing wall is horizontal.

35. (New) Apparatus according to Claim 2, wherein the flow-through container protrudes from the microwave chamber.

36. (New) Apparatus according to Claim 35, wherein the mixing device protrudes from the microwave chamber.

37. (New) Apparatus according to Claim 35, wherein an inlet or outlet for the flow-through container is arranged in the protruding end region of the flow-through container.

38. (New) Apparatus according to Claim 2, wherein a treatment chamber is defined in the flow-through container and is connected to a pressure-limiting valve.

39. (New) Apparatus according to Claim 38, wherein the pressure-limiting valve is adjustable.

40. (New) Apparatus according to Claim 38, wherein the pressure-limiting valve is arranged in a flow-through line section.

41. (New) Apparatus according to Claim 40, wherein the pressure limiting valve is arranged in an outlet line section.

42. (New) Apparatus according to Claim 40, wherein the pressure-limiting valve is displaceable so far that in an open position it frees the flow-through line.

43. (New) Apparatus according to Claim 35, wherein a cooling or heating device is arranged in that region of the flow-through container which protrudes from the microwave chamber.

44. (New) Apparatus according to Claim 35, wherein a connecting piece is arranged in that region of the flow-through container which protrudes from the microwave chamber.

REMARKS

By the foregoing amendments the claims have been amended to omit multiple dependencies and to conform the claims to U.S. format.

The filing fee has been calculated based on the claims as amended above. No new matter has been added.

Respectfully submitted,

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